



## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We make Indiana a cleaner, healthier place to live.*

Joseph E. Kernan  
Governor

Lori F. Kaplan  
Commissioner

September 30, 2003

100 North Senate Avenue  
P.O. Box 6015  
Indianapolis, Indiana 46206-6015  
(317) 232-8603  
(800) 451-6027  
[www.in.gov/idem](http://www.in.gov/idem)

TO: Interested Parties / Applicant

RE: Sisu Services / 089-16630-00478

FROM: Paul Dubenetzky  
Chief, Permits Branch  
Office of Air Quality

### Notice of Decision: Approval - Registration

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures  
FN-REGIS.dot 9/16/03



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Frank O'Bannon  
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September 30, 2003

Asko Ruuska  
Sisu Services, Inc.  
674 Madison  
Crown Point IN 46307

Re: Registered Construction and Operation Status,  
**089-16630-00478**

Dear Mr. Ruuska:

The application from Sisu Services, Inc. received on December 30, 2002, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following aircraft wheel and brake remanufacturing source, to be located at 674 Madison, Crown Point, IN 46307, Indiana, is classified as registered:

- (a) One (1) Binks paint spray booth, identified as 001, equipped with dry filters for particulate overspray control, constructed in 1997, exhausting to stack V1, capacity: 1.82 aircraft wheel parts per hour.
- (b) One (1) abrasive blasting booth #1, identified as 002, equipped with a baghouse for particulate control, constructed in 1997, exhausting to stack V4, capacity: 16.7 pounds of aircraft wheel parts per hour.
- (c) One (1) abrasive blasting booth #2, identified as 003, equipped with a baghouse for particulate control, constructed in 1999, exhausting to stack V6, capacity: 16.7 pounds of aircraft wheel parts per hour.
- (d) One (1) cold cleaner degreaser, identified as 005, constructed in 1997, exhausting to stack V3, capacity: 0.009 pounds of safety-kleen solvent per hour.
- (e) One (1) abrasive blasting booth #3, identified as 006, equipped with a baghouse for particulate control, constructed in 1997, exhausting to stack V5, capacity: 16.65 pounds of aircraft wheel parts per hour.
- (f) Four (4) natural gas fired heaters, identified as 009 through 012, exhausting through stacks S1 through S4, rated at: 0.135 million British thermal units per hour, each.
- (g) One (1) natural gas fired heater, identified as 008, exhausting to stack S5, rated at: 0.175 million British thermal units per hour.

- (h) One (1) natural gas fired heater, identified as 007, exhausting to stack S6, rated at: 0.05 million British thermal units per hour.
- (i) Two (2) natural gas fired heaters, identified as 013 and 014, exhausting to stack S7 and S8, rated at: 0.095 million British thermal units per hour, each.
- (j) One (1) drying room, exhausted to vent V2.
- (k) One (1) proclean paint spray booth, identified as 004a, equipped with HVLP spray applicators and dry filters for particulate overspray control, exhausting to stack V4a, capacity: 1.82 aircraft wheel parts per hour.

The following conditions shall be applicable:

- (1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following:
  - (a) Opacity shall not exceed an average of twenty percent (20%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
- (2) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from the three (3) abrasive blasting booths, identified as 002, 003, and 006 shall not exceed 0.551 pounds per hour, because the process weight rate is less than one-hundred (100) pounds per hour.
- (3) 326 IAC 8-3 (Organic Solvent Degreasing Operations)

The one (1) cold cleaner degreaser, identified as 005, is a cold cleaner degreaser without a remote solvent reservoir. Therefore, the requirements of 326 IAC 8-3-2, Organic Solvent Degreasing Operations: Cold Cleaner Operation, and 326 IAC 8-3-5, Organic Solvent Degreasing Operations: Cold Cleaner Degreaser Operation and Control, are applicable. Compliance with 326 IAC 8-3-5 will satisfy the requirements of 326 IAC 8-3-2.

  - (a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the owner or operator of the cold cleaner degreasers shall ensure that the following requirements are met:
    - (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
      - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF));
      - (B) The solvent is agitated; or
      - (C) The solvent is heated.

- (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
  - (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
  - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
  - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9EC) (one hundred twenty degrees Fahrenheit (120EF)):
    - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
    - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
    - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of the cold cleaning degreasers shall ensure that the following operating requirements are met:
- (1) Close the cover whenever articles are not being handled in the degreaser.
  - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
  - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

This registration is the first air approval issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3)). The annual notice shall be submitted to:

**Compliance Branch  
Office of Air Quality  
100 North Senate Avenue  
P.O. Box 6015  
Indianapolis, IN 46206-6015**

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original Signed by

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

CJF/MES

cc: File - Lake County  
Lake County Health Department  
Air Compliance - Ramesh Tejuja  
Northwest Regional Office  
Permit Filing  
Air Programs Section- Michele Boner  
Compliance Branch - Karen Nowak  
Office of Enforcement

<b>Registration Annual Notification</b>
---

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

<b>Company Name:</b>	<b>Sisu Services, Inc.</b>
<b>Address:</b>	<b>674 Madison</b>
<b>City:</b>	<b>Crown Point IN 46307</b>
<b>Authorized individual:</b>	<b>Asko Ruuska</b>
<b>Phone #:</b>	<b>219-661-2235</b>
<b>Registration #:</b>	<b>089-16630-00478</b>

I hereby certify that **Sisu Services, Inc.**, is still in operation and is in compliance with the requirements of Registration **089-16630-00478**.

<b>Name (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

## **Indiana Department of Environmental Management Office of Air Quality**

### **Technical Support Document (TSD) for a Registration**

#### **Source Background and Description**

<b>Source Name:</b>	<b>Sisu Services, Inc.</b>
<b>Source Location:</b>	<b>674 Madison, Crown Point, IN 46307</b>
<b>County:</b>	<b>Lake</b>
<b>SIC Code:</b>	<b>3599</b>
<b>Operation Permit No.:</b>	<b>R 089-16630-00478</b>
<b>Permit Reviewer:</b>	<b>Craig J. Friederich</b>

The Office of Air Quality (OAQ) has reviewed an application from Sisu Services, Inc. relating to the construction and operation of an aircraft wheel and brake remanufacturing source.

#### **Unpermitted Emission Units and Pollution Control Equipment**

The source consists of the following unpermitted facilities/units:

- (a) One (1) Binks paint spray booth, identified as 001, equipped with dry filters for particulate overspray control, constructed in 1997, exhausting to stack V1, capacity: 1.82 aircraft wheel parts per hour.
- (b) One (1) abrasive blasting booth #1, identified as 002, equipped with a baghouse for particulate control, constructed in 1997, exhausting to stack V4, capacity: 16.7 pounds of aircraft wheel parts per hour.
- (c) One (1) abrasive blasting booth #2, identified as 003, equipped with a baghouse for particulate control, constructed in 1999, exhausting to stack V6, capacity: 16.7 pounds of aircraft wheel parts per hour.
- (d) One (1) cold cleaner degreaser, identified as 005, constructed in 1997, exhausting to stack V3, capacity: 0.009 pounds of safety-kleen solvent per hour.
- (e) One (1) abrasive blasting booth #3, identified as 006, equipped with a baghouse for particulate control, constructed in 1997, exhausting to stack V5, capacity: 16.7 pounds of aircraft wheel parts per hour.
- (f) Four (4) natural gas fired heaters, identified as 009 through 012, exhausting through stacks S1 through S4, rated at: 0.135 million British thermal units per hour, each.
- (g) One (1) natural gas fired heater, identified as 008, exhausting to stack S5, rated at: 0.175 million British thermal units per hour.

- (h) One (1) natural gas fired heater, identified as 007, exhausting to stack S6, rated at: 0.05 million British thermal units per hour.
- (i) Two (2) natural gas fired heaters, identified as 013 and 014, exhausting to stack S7 and S8, rated at: 0.095 million British thermal units per hour, each.
- (j) One (1) drying room, exhausted to vent V2.

### New Emission Units and Pollution Control Equipment

The source consists of the following new facilities/units:

- (k) One (1) proclean paint spray booth, identified as 004a, equipped with HVLP spray applicators and dry filters for particulate overspray control, exhausting to stack V4a, capacity: 1.82 aircraft wheel parts per hour.

### Existing Approvals

There are no existing approvals for this source.

### Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
V1	Spray Booth 001	9.0	1.91	2,685	70
V2	Drying Room 007	8.0	1.91	258	70
V3	Degreaser 005	9.0	0.67	640	70
V4	Blasting 002	9.0	0.67	640	70
V4a	Spray Booth 004a	25.0	2.00	7,258	70
V5	Blasting 006	9.0	0.50	775	70
V6	Blasting 003	9.0	0.67	700	70

### Enforcement Issue

- (a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled *Unpermitted Emission Units and Pollution Control Equipment*.
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

### Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on December 30, 2002, with additional information received on July 14, 2003.

### Emission Calculations

See pages 1 through 8 of 8 of Appendix A of this document for detailed emissions calculations.

### Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	21.6
PM <sub>10</sub>	21.6
SO <sub>2</sub>	0.003
VOC	5.24
CO	0.351
NO <sub>x</sub>	0.418

HAPs	Potential To Emit (tons/year)
single HAP	less than 10
TOTAL HAPs	less than 25

- (a) The potential to emit (as defined in 326 IAC 2-5.1-2) of PM and PM<sub>10</sub> are less than twenty-five (25) tons per year and greater than five (5) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (c) Fugitive Emissions  
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

### Actual Emissions

No previous emission data has been received from the source.

### Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
Spray Booth 001	1.12	1.12	--	1.67	--	--	1.32
Blasting Booth 002	7.44	7.44	--	--	--	--	--
Blasting Booth 003	7.44	7.44	--	--	--	--	--
Spray Booth 004a	1.22	1.22	--	1.89	--	--	--
Degreaser 005	--	--	--	0.039	--	--	--
Blasting Booth 006	4.34	4.34	--	--	--	--	--
Heaters 007-014	0.008	0.032	0.003	0.023	0.351	0.418	0.008
Total Emissions	21.6	21.6	0.003	3.62	0.351	0.418	1.33

### County Attainment Status

The source is located in Lake County.

Pollutant	Status
PM <sub>10</sub>	*Moderate Nonattainment
SO <sub>2</sub>	Primary Nonattainment
NO <sub>2</sub>	Attainment
Ozone	Severe Nonattainment
CO	Attainment
Lead	Attainment

\*Note: Lake County has been federally re-designated in 40 CFR 81.315 as attainment for PM<sub>10</sub>. The Air Pollution Control Board will be making the same re-designation in the state rules.

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. However, for Lake County, NO<sub>x</sub> emissions are not included when evaluating the rule applicability relating to ozone standards. Lake County has been designated as nonattainment for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

- (b) Lake County has been re-classified in March 2000 as attainment for CO . Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) This source is located in Crown Point, which is outside the area designated in 40 CFR 81.315 as nonattainment for SO<sub>2</sub>. This source is also not located in Gary, East Chicago, Hammond, and Whiting. Therefore, it is not in the area designated as nonattainment for PM<sub>10</sub>.
- (d) Fugitive Emissions  
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

#### Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	21.6
PM <sub>10</sub>	21.6
SO <sub>2</sub>	0.003
VOC	3.62
CO	0.351
NO <sub>x</sub>	0.418

- (a) This existing source is **not** a major stationary source pursuant to 326 IAC 2-2 because no attainment regulated pollutant is emitted at a rate of two hundred-fifty (250) tons per year or more, and it is not in one of the 28 listed source categories.
- (b) This existing source is **not** a major stationary source pursuant to 326 IAC 2-3 because the potential to emit VOC is less than twenty-five (25) tons per year.
- (c) These emissions were based on the calculations taken from the Registration application submitted by the source as shown on pages 1 through 8 of Appendix A.

#### Part 70 Permit Determination

##### 326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit R 089-16630-00478, is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than one hundred (100) tons per year,

- (b) a single hazardous air pollutant (HAP) is less than ten (10) tons per year, and
- (c) any combination of HAPs is less than twenty-five (25) tons per year.

This is the first air approval issued to this source.

#### **Federal Rule Applicability**

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) The degreasing activities are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), Subpart T because these degreasing activities do not use any of the halogenated solvents listed in this subpart.

#### **State Rule Applicability - Entire Source**

##### **326 IAC 2-2 (Prevention of Significant Deterioration (PSD))**

Uncontrolled potential emissions of all attainment criteria pollutants from this source are less than two-hundred fifty (250) tons per year. Therefore, the requirements of 326 IAC 2-2, Prevention of Significant Deterioration, are not applicable.

##### **326 IAC 2-3 (Emission Offset)**

This existing source is not subject to the requirements of 326 IAC 2-3 (Emission Offset) because uncontrolled potential emissions of VOC from this source are less than twenty-five (25.0) tons per year.

##### **326 IAC 2-6 (Emission Reporting)**

This source is located in Lake County and the potential to emit VOC and NO<sub>x</sub> is less than ten (10) tons per year, and the potential to emit the remaining criteria pollutants is less than one-hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

##### **326 IAC 5-1 (Opacity)**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of twenty percent (20%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

### State Rule Applicability - Individual Facilities

#### 326 IAC 6-1 (Particulate Limitations)

Because this source is located in Lake County, 326 IAC 6-1-2 (particulate limitations) could be applicable. However, because the source, has potential particulate matter emissions less than one-hundred (100) tons per year, and actual particulate emissions will be less than ten (10) tons per year, 326 IAC 6-1-2 (particulate limitations) is not applicable. Actual emissions were determined from calculations obtained from the Registration application submitted for the source. The source will only operate 2,080 hours per year.

#### 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

- (a) Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from the two (2) abrasive blasting booths, identified as 002 and 003, shall not exceed 0.551 pounds per hour, because the process weight rate is less than one-hundred (100) pounds per hour.

Based on Appendix A, the potential PM emission rate, after controls, for each blaster, is:

$$0.074 \text{ ton/yr} \times (2000 \text{ lbs/ton} / 8760 \text{ hrs/yr}) = 0.017 \text{ lb/hr}$$

The PM emissions from the two (2) abrasive blasting booths, identified as 002 and 003, are 0.017 pounds of PM per hour, each, which is less than the allowable of 0.551 pounds of PM per hour, each. Therefore, the two (2) abrasive blasting booths, identified as 002 and 003, are in compliance with this rule.

The baghouse shall be in operation at all times the two (2) abrasive blasting booths, identified as 002 and 003, are in operation, in order to comply with this limit.

- (b) Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from the one (1) abrasive blasting booth, identified as 006, shall not exceed 0.551 pounds per hour, because the process weight rate is less than one-hundred (100) pounds per hour.

Based on Appendix A, the potential PM emission rate, after controls, for the blaster, is:

$$0.043 \text{ ton/yr} \times (2000 \text{ lbs/ton} / 8760 \text{ hrs/yr}) = 0.010 \text{ lb/hr}$$

The PM emissions from the one (1) abrasive blasting booth, identified as 006, is 0.010 pounds of PM per hour, each, which is less than the allowable of 0.551 pounds of PM per hour. Therefore, the one (1) abrasive blasting booth, identified as 006, are in compliance with this rule.

The baghouse shall be in operation at all times the one (1) abrasive blasting booth, identified as 006 is in operation, in order to comply with this limit.

- (c) The two (2) spray booths, identified as 001 and 004a use less than five (5) gallons of paint per day. Therefore, pursuant to 326 IAC 6-3-1(b)(15), they are exempt from the requirements of this rule.

#### 326 IAC 8-2-9 (Miscellaneous Metal Coating)

The two (2) spray paint booths, identified as 001 and 004a, were constructed after July 1, 1990, and have actual emissions of less than fifteen (15) pounds per day. Therefore, the requirements of this

rule are not applicable.

### 326 IAC 8-3 (Organic Solvent Degreasing Operations)

The one (1) cold cleaner degreaser, identified as 005, is a cold cleaner degreaser without a remote solvent reservoir. Therefore, the requirements of 326 IAC 8-3-2, Organic Solvent Degreasing Operations: Cold Cleaner Operation, and 326 IAC 8-3-5, Organic Solvent Degreasing Operations: Cold Cleaner Degreaser Operation and Control, are applicable. Compliance with 326 IAC 8-3-5 will satisfy the requirements of 326 IAC 8-3-2.

- (a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the owner or operator of the cold cleaner degreasers shall ensure that the following requirements are met:
  - (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
    - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF));
    - (B) The solvent is agitated; or
    - (C) The solvent is heated.
  - (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
  - (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
  - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
  - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9EC) (one hundred twenty degrees Fahrenheit (120EF)):
    - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
    - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
    - (C) Other systems of demonstrated equivalent control such as a refrigerated

chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

- (b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of the cold cleaning degreasers shall ensure that the following operating requirements are met:
- (1) Close the cover whenever articles are not being handled in the degreaser.
  - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
  - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

### **Conclusion**

The construction and operation of this aircraft wheel and brake remanufacturing source shall be subject to the conditions of the attached proposed New Source Construction and Registration 089-16630-00478.

**Appendix A: Emission Calculations  
Abrasive Blasting - Confined  
Booth 002**

**Company Name:** Sisu Services, Inc.  
**Address City IN Zip:** 674 Madison, Crown Point, Indiana 46307  
**Registration:** 089-16630  
**Pit ID:** 089-00478  
**Reviewer:** Craig J. Friederich  
**Date:** December 30, 2002

This Booth is equipped with a Baghouse  
 99 percent efficiency

**Table 1 - Emission Factors for Abrasives**

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

**Table 2 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)**

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

**Calculations**

*Adjusting Flow Rates for Different Abrasives and Nozzle Diameters*

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)

FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 2 =

D = Density of plastic beads (lb/ft<sup>3</sup>) as provided from source =

D1 = Density of sand (lb/ft<sup>3</sup>) =

ID = Actual nozzle internal diameter (in) =

ID1 = Nozzle internal diameter (in) from Table 2 =

285
59.0
99.0
0.375
0.375

**Flow Rate (FR) (lb/hr) =**

**170** per nozzle

**Uncontrolled Emissions (E, lb/hr)**

EF = emission factor (lb PM/ lb abrasive) From Table 1 =

FR = Flow Rate (lb/hr) =

w = fraction of time of wet blasting =

N = number of nozzles =

0.01
170
0.00
1.00

<b>Uncontrolled Emissions =</b>	<b>1.70 lb/hr</b>
	<b>7.44 ton/yr</b>
<b>Controlled Emissions=</b>	<b>0.074 ton/yr</b>

**METHODOLOGY**

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)<sup>2</sup> x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

**Appendix A: Emission Calculations  
Abrasive Blasting - Confined  
Booth 003**

**Company Name:** Sisu Services, Inc.  
**Address City IN Zip:** 674 Madison, Crown Point, Indiana 46307  
**Registration:** 089-16630  
**Plt ID:** 089-00478  
**Reviewer:** Craig J. Friederich  
**Date:** December 30, 2002

This Booth is equipped with a Baghouse  
99 percent efficiency

**Table 1 - Emission Factors for Abrasives**

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

**Table 2 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)**

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

**Calculations**

*Adjusting Flow Rates for Different Abrasives and Nozzle Diameters*

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)

FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 2 =

D = Density of plastic beads (lb/ft<sup>3</sup>) as provided from source =

D1 = Density of sand (lb/ft<sup>3</sup>) =

ID = Actual nozzle internal diameter (in) =

ID1 = Nozzle internal diameter (in) from Table 2 =

285
59.0
99.0
0.375
0.375

**Flow Rate (FR) (lb/hr) = 170 per nozzle**

**Uncontrolled Emissions (E, lb/hr)**

EF = emission factor (lb PM/ lb abrasive) From Table 1 =

FR = Flow Rate (lb/hr) =

w = fraction of time of wet blasting =

N = number of nozzles =

0.01
170
0.00
1.00

<b>Uncontrolled Emissions =</b>	<b>1.70 lb/hr</b>
	<b>7.44 ton/yr</b>
<b>Controlled Emissions=</b>	<b>0.074 ton/yr</b>

**METHODOLOGY**

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)<sup>2</sup> x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

**Appendix A: Emission Calculations  
Abrasive Blasting - Confined  
Booth 006**

**Company Name:** Sisu Services, Inc.  
**Address City IN Zip:** 674 Madison, Crown Point, Indiana 46307  
**Registration:** 089-16630  
**Pit ID:** 089-00478  
**Reviewer:** Craig J. Friederich  
**Date:** December 30, 2002

This Booth is equipped with a Baghouse  
 99 percent efficiency

**Table 1 - Emission Factors for Abrasives**

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

**Table 2 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)**

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

**Calculations**

*Adjusting Flow Rates for Different Abrasives and Nozzle Diameters*

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)

FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 2 =

D = Density of glass beads (lb/ft<sup>3</sup>) as provided from source =

D1 = Density of sand (lb/ft<sup>3</sup>) =

ID = Actual nozzle internal diameter (in) =

ID1 = Nozzle internal diameter (in) from Table 2 =

109
90.0
99.0
0.250
0.250

**Flow Rate (FR) (lb/hr) = 99.1 per nozzle**

**Uncontrolled Emissions (E, lb/hr)**

EF = emission factor (lb PM/ lb abrasive) From Table 1 =

FR = Flow Rate (lb/hr) =

w = fraction of time of wet blasting =

N = number of nozzles =

0.01
99.1
0.00 %
1.00

<b>Uncontrolled Emissions =</b>	<b>0.991 lb/hr</b>
	<b>4.34 ton/yr</b>
<b>Controlled Emissions=</b>	<b>0.043 ton/yr</b>

**METHODOLOGY**

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)<sup>2</sup> x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

**Appendix A: Emissions Calculations  
VOC and Particulate  
From Surface Coating Operations**

**Company Name:** Sisu Services, Inc.  
**Address City IN Zip:** 674 Madison, Crown Point, Indiana 46307  
**Registration:** 089-16630  
**Plt ID:** 089-00478  
**Reviewer:** Craig J. Friederich  
**Date:** December 30, 2002

Material	Density (lbs/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (units/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC (pounds per hour)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Particulate Potential (tons/yr)	lbs VOC/gal solids	Transfer Efficiency
<b>Spray Booth 004a</b>																
Imron Polyurethane Enamel*	9.23	58.29%	0.00%	58.3%	0.00%	35.65%	0.044	1.82	5.38	5.38	0.431	10.3	<b>1.89</b>	<b>1.22</b>	15.1	10.0%
<b>Spray Booth 001</b>																
S9001 Epoxy Primer*	8.82	57.4%	0.00%	57.4%	0.00%	57.6%	0.0415	1.82	5.06	5.06	0.382	9.18	1.67	1.12	8.79	10.0%
Lubri-Bond A	7.50	84.0%	0.00%	84.0%	0.00%	3.00%	0.0185	1.82	6.30	6.30	0.212	5.09	0.929	0.159	210	10.0%
													<b>1.67</b>	<b>1.12</b>		
454 Lacquer Thinner	6.70	100%	0.00%	100%	0.00%	0.00%	0.0303	1.82	6.70	6.70	0.369	8.87	1.62	<b>0.00</b>	N/A	10.0%

<b>Potential to Emit</b>	<b>Add worst case coating to all solvents</b>	PM	Control Efficiency	98.2%												
			<b>Uncontrolled</b>		<b>1.39</b>	<b>33.5</b>	<b>3.56</b>	<b>2.33</b>								
			<b>Controlled</b>		<b>1.39</b>	<b>33.5</b>	<b>1.62</b>	<b>0.042</b>								

**METHODOLOGY**

\*Properties of the coating "as applied" to the substrate.

Pounds of VOC per Gallon Coating less Water = (Density (lbs/gal) \* Weight % Organics) / (1-Volume % water)  
Pounds of VOC per Gallon Coating = (Density (lbs/gal) \* Weight % Organics)  
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)  
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)  
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)  
Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \*(8760 hrs/yr) \*(1 ton/2000 lbs)  
Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)  
Total = Worst Coating + Sum of all solvents used

**Appendix A: Emission Calculations**  
**HAP Emission Calculations**

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**Company Name: Sisu Services, Inc.**  
**Address City IN Zip: 674 Madison, Crown Point, Indiana 46307**  
**Registration: 089-16630**  
**Plt ID: 089-00478**  
**Reviewer: Craig J. Friederich**  
**Date: December 30, 2002**

Material	Density (lbs/gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % MEK	Weight % Toluene	Weight % Ethyl Benzene	Weight % Glycol Ethers	Xylene Emissions (tons/yr)	MEK Emissions (tons/yr)	Toluene Emissions (tons/yr)	Ethyl Benzene Emissions (tons/yr)	Glycol Ether Emissions (tons/yr)
<b>Spray Booth 001</b>													
S9001 Epoxy Primer	8.82	0.020	1.82	3.00%	8.00%	7.00%	0.720%	0.00%	0.042	0.112	0.098	0.010	0.00
S3001 Converter	6.98	0.0199	1.82	0.00%	17.0%	3.00%	0.00%	0.00%	0.00	0.19	0.03	0.00	0.00
T0006 Reducer	7.10	0.0017	1.82	0.00%	18.0%	20.0%	0.00%	12.0%	0.00	0.02	0.02	0.00	0.01
Lubri-Bond A	7.50	0.019	1.82	5.00%	85.0%	5.00%	0.00%	0.00%	0.055	0.940	0.055	0.00	0.00
									0.097	1.258	0.206	0.010	0.012
454 Lacquer Thinner	6.70	0.030	1.82	0.00%	5.99%	19.36%	0.00%	0.00%	0.00	0.10	0.31	0.00	0.00
									<b>0.097</b>	<b>1.26</b>	<b>0.313</b>	<b>0.010</b>	<b>0.012</b>
<b>Spray Booth 004a</b>													
Imron Polyurethane Enamel	9.75	0.033	1.82	0.00%	3.00%	2.00%	0.100%	0.00%	0.00	0.077	0.051	0.003	0.00
V192 S Activator	8.11	0.011	1.82	0.00%	0.00%	0.00%	0.000%	0.00%	0.00	0.000	0.000	0.000	0.00
									0.000	0.077	0.051	0.003	0.000
454 Lacquer Thinner	6.70	0.030	1.82	0.00%	5.99%	19.36%	0.00%	0.00%	0.00	0.097	0.313	0.00	0.00
									<b>0.000</b>	<b>0.097</b>	<b>0.313</b>	<b>0.003</b>	<b>0.000</b>

**METHODOLOGY**

HAPS emission rate (tons/yr) = Density (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (unit/hr) \* Weight % HAP \* 8760 hrs/yr \* 1 ton/2000 lbs

**Appendix A: Emission Calculations  
Degreasing Operations  
VOC and HAP Emission Calculations**

**Company Name: Sisu Services, Inc.  
Address City IN Zip: 674 Madison, Crown Point, Indiana 46307  
Registration: 089-16630  
Plt ID: 089-00478  
Reviewer: Craig J. Friederich  
Date: December 30, 2002**

Material	Maximum Consumption (lbs/yr)	Weight % VOC	VOC Emissions (tons/yr)	Total HAPs Emissions (tons/yr)	Solvent Used
<b>Degreasing</b>					
Cold Cleaner 005	78.8	100%	0.039	0.00	Safety-Kleen 150 Stoddard Solvent

<b>TOTALS:</b>	<b>(tons/yr):</b>	<b>0.039</b>	<b>0.00</b>
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**METHODOLOGY**

VOC/HAPs emission rate (tons/yr) = Material Usage (lbs/hr) \* Weight % VOC/HAP \* 8760 hrs/yr \* 1 ton/2000 lbs

**Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100**

**Company Name:** Sisu Services, Inc.  
**Address City IN Zip:** 674 Madison, Crown Point, Indiana 46307  
**Registration:** 089-16630  
**Plt ID:** 089-00478  
**Reviewer:** Craig J. Friederich  
**Date:** December 30, 2002

Heat Input Capacity  
MMBtu/hr

0.955

Potential Throughput  
MMCF/yr

8.37

Four (4) heaters rated at 0.135 MMBtu/hr, each.  
 One (1) heater rated at 0.175 MMBtu/hr.  
 One (1) heater rated at 0.05 MMBtu/hr.  
 Two (2) heaters rated at 0.095 MMBtu/hr, each.

Pollutant						
Emission Factor in lb/MMCF	PM*	PM10*	SO2	NOx	VOC	CO
	1.90	7.60	0.600	100	5.50	84.0
	**see below					
Potential Emission in tons/yr	0.008	0.032	0.003	0.418	0.023	0.351

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

### Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 8 for HAPs emissions calculations.

**Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100  
HAPs Emissions**

**Page 8 of 8 TSD App A**

**Company Name: Sisu Services, Inc.  
Address City IN Zip: 674 Madison, Crown Point, Indiana 46307  
Registration: 089-16630  
Plt ID: 089-00478  
Reviewer: Craig J. Friederich  
Date: December 30, 2002**

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	0.00001	0.00001	0.0003	0.008	0.00001

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03	Total HAPs
Potential Emission in tons/yr	0.00000	0.00000	0.00001	0.00000	0.00001	0.008

Methodology is the same as page 7.

The five highest organic and metal HAPs emission factors are provided above.  
Additional HAPs emission factors are available in AP-42, Chapter 1.4.